UNITED STATES PATENT AND TRADEMARK OFFICE

NOTICE OF ALLOWANCE AND FEE(S) DUE

32864	7590	04/29/2008

FISH & RICHARDSON, P.C.
PO BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER
HWANG, JOON H

ART UNIT	PAPER NUMBER
2166	

DATE MAILED: 04/29/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,557	11/14/2003	Martin Stahl	20017-149US1 / 2001P00015	1730

TITLE OF INVENTION: METHOD, SYSTEM, AND COMPUTER PROGRAM FOR MIGRATING CONTENT FROM SOURCE DATABASE TO TARGET DATABASE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1440	$300	$0	$1740	07/29/2008

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT.
PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS.
THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON
PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE
MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS
STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES
NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS
PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM
WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW
DUE.**

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current
SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown
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B. If the status above is to be removed, check box 5b on Part B -
Fee(s) Transmittal and pay the PUBLICATION FEE (if required)
and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now
claiming SMALL ENTITY status, check box 5a on Part B - Fee(s)
Transmittal and pay the PUBLICATION FEE (if required) and 1/2
the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office
(USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b"
of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a
request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing
the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to
Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of
maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

32864   7590   04/29/2008

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,557	11/14/2003	Martin Stahl	20017-149US1 / 2001P00015	1730

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nonprovisional	NO	$1440	$300	$0	$1740	07/29/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
HWANG, JOON H	2166	707-201000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) :   ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
HWANG, JOON H

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DATE MAILED: 04/29/2008

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 605 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 605 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

	Application No.	**Applicant(s)**
Notice of Allowability	10/714,557	STAHL ET AL.
	Examiner	**Art Unit**	
	JOON H. HWANG	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to *a telephone interview with Darien Reddick (Reg. No. 57,956) on 4/24/08*.

2. ☒ The allowed claim(s) is/are *1,3,4,6-10,12,13,15-19,21 and 22 (renumbered as 1-17)*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

      a) ☐ All   b) ☐ Some*   c) ☐ None of the:

          1. ☐ Certified copies of the priority documents have been received.

          2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

          3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

      * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

1.   The applicants amended claims 1, 10, 19, and 22 in the amendment filed on

3/11/08.

        The pending claims are 1-22.

EXAMINER'S AMENDMENT

2.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

3.   Authorization for this examiner's amendment was given in a telephone interview

with Darien Reddick (Reg. No. 57,956) on 4/24/08.

4.   The application has been amended as follows:

        Rewrite the paragraph on page 6, lines 12-20 of the specification as follows:

        "Memory 920 symbolizes elements that temporarily or permanently store

        data and instructions. Although memory 920 is conveniently illustrated as part of

        computer 900, memory function can also be implemented in network 990, in

        computers 901/902 and in processor 910 itself (e.g., cache, register), or

        elsewhere. Memory 920 can be a read only memory (ROM), a random access

        memory (RAM), or a memory with other access options. Memory 920 may be

        physically implemented by computer-readable media, such as, computer-

        readable storage media (for example: (a) magnetic media, like a hard disk, a

        floppy disk, or other magnetic disk, a tape, a cassette tape; (b) optical media,

        such as an optical disk (CD-ROM, digital versatile disk - DVD); (c) semiconductor

media, like DRAM, SRAM, EPROM, EEPROM, memory stick) or by any other
media, such as paper."

Rewrite claim 1 as follows:

"1. A method for migrating content from a source table in a source database to a
target table in a target database, wherein the databases are physically different, the
method comprising:

storing entries corresponding to database instructions in at least one of the
source table and the target table, with a business application consecutively sending
database instructions to the source database before migrating, the business application
consecutively sending database instructions to the target database after migrating, each
entry in each table having a unique key, and the database instructions having action
types;

storing representations, for at least one entry in the source table, of an action
type and of the unique key in a log table under a condition that the action type coincides
with a predetermined action type;

copying entries of the source table to the target table;

removing representations from the log table of the entries copied from the source
table to the target table;

adjusting the entries in the target table that have keys represented in the log
table according to the action type representations stored in the log table; and

removing representations from the log table of the entries adjusted in the target table,

wherein copying the entries comprises converting a coding of each entry, and

wherein adjusting the entries is performed in a first adjustment period while the business application is sending database instructions and in a second adjustment period while the business application is not sending database instructions.";

Cancel claim 2;

Rewrite claim 3 as follows:

"3. The method of claim 1, wherein converting a coding of each entry comprises converting from a single-byte code to a multi-byte code.";

Cancel claim 5;

Rewrite claim 6 as follows:

"6. The method of claim 1 wherein the predetermined action type is selected from the group consisting of insert, delete, and update.";

Rewrite claim 10 as follows:

"10. An article of manufacture comprising a computer readable storage medium having computer readable program code embodied therein for executing instructions for

migrating content from a source table in a source database to a target table in a target

database, wherein the databases are physically different, the instructions adapted to

cause a processor to perform operations comprising:

storing entries corresponding to database instructions in at least one of the

source table and the target table, with a business application consecutively sending

database instructions to the source database before migrating, the business application

consecutively sending database instructions to the target database after migrating, each

entry in each table having a unique key, and the database instructions having action

types;

storing representations, for at least one entry in the source table, of an action

type and of the unique key in a log table under a condition that the action type coincides

with a predetermined action type;

copying entries of the source table to the target table;

removing representations from the log table of the entries copied from the source

table to the target table;

adjusting the entries in the target table that have keys represented in the log

table according to the action type representations stored in the log table; and

removing representations from the log table of the entries adjusted in the target

table,

wherein copying the entries comprises converting a coding of each entry, and

wherein adjusting the entries is performed in a first adjustment period while the

business application is sending database instructions and in a second adjustment

period while the business application is not sending database instructions.";

Cancel claim 11;

Rewrite claim 12 as follows:

"12. The article of claim 10 wherein converting the coding of each entry

comprises converting from a single-byte code to a multi-byte code.";

Cancel claim 14;

Rewrite claim 15 as follows:

"15. The article of claim 10 wherein the predetermined action type is selected

from the group consisting of insert, delete, and update.";

Rewrite claim 19 as follows:

"19. A computer program product embodied on a computer-readable storage

medium for migrating content from a source table in a source database to a target table

in a target database, wherein the databases are physically different, the computer

program product having instructions adapted to cause a processor to perform

operations comprising:

storing entries corresponding to database instructions in at least one of the source table and the target table, with a business application consecutively sending database instructions to the source database before migrating, the business application consecutively sending database instructions to the target database after migrating, each table having entries corresponding to database instructions, each entry in each table having a unique key, and the database instructions having action types;

storing representations, for at least one entry in the source table, of an action type and of the unique key in a log table under a condition that the action type coincides with a predetermined action type;

copying entries of the source table to the target table, wherein copying entries includes converting a coding of each entry;

removing representations from the log table of the entries copied from the source table to the target table;

adjusting the entries in the target table that have keys represented in the log table according to the action type representations stored in the log table; and

removing representations from the log table of the entries adjusted in the target table, wherein the instructions cause the processor to perform adjusting consecutively in a first adjustment period while the business application is sending database instructions and in a second adjustment period while the business application is not sending database instructions.";

Cancel claim 20; and

Rewrite claim 22 as follows:

"22. A computer system for migrating content from a source table in a source database to a target table in a target database, wherein the databases are physically different, the computer system having a migration tool comprising:

a computer-readable storage medium;

means for storing in the computer-readable storage medium entries corresponding to database instructions in at least one of the source table and the target table, with a business application consecutively sending database instructions to the source database before migrating, the business application consecutively sending database instructions to the target database after migrating, each entry in each table having a unique key, and the database instructions having action types;

means for storing in the computer-readable storage medium representations, for at least one entry in the source table, of an action type and of the unique key in a log table under a condition that the action type coincides with a predetermined action type;

means for copying entries of the source table to the target table, wherein copying entries includes converting a coding of each entry;

means for removing representations from the log table of the entries copied from the source table to the target table;

means for adjusting the entries in the target table that have keys represented in the log table according to the action type representations stored in the log table; and

means for removing representations from the log table of the entries adjusted in

the target table, wherein means for adjusting the entries in the target table further

adjusts the entries in the target table in a first adjustment period while the business

application is sending database instructions and in a second adjustment period while

the business application is not sending database instructions.".

5.   The pending claims are 1, 3-4, 6-10, 12-13, 15-19, and 21-22.

Allowable Subject Matter

6.   Claims 1, 3-4, 6-10, 12-13, 15-19, and 21-22 are allowed.

Claims 1, 10, 19, and 22 identify the distinct features, storing entries

corresponding to database instructions in at least one of the source table and the target

table, with a business application consecutively sending database instructions to the

source database before migrating, the business application consecutively sending

database instructions to the target database after migrating, each entry in each table

having a unique key, and the database instructions having action types; storing

representations, for at least one entry in the source table, of an action type and of the

unique key in a log table under a condition that the action type coincides with a

predetermined action type; copying entries of the source table to the target table;

removing representations from the log table of the entries copied from the source table

to the target table; adjusting the entries in the target table that have keys represented in

the log table according to the action type representations stored in the log table; and

removing representations from the log table of the entries adjusted in the target table,

wherein copying the entries comprises converting a coding of each entry, and wherein

adjusting the entries is performed in a first adjustment period while the business

application is sending database instructions and in a second adjustment period while

the business application is not sending database instructions, are not taught or

suggested by the prior art made of records. The closest prior art, Griffin et al. (U.S.

Patent No. 6,006,216) disclosing replication of a source database to a target database,

fails to suggest the claimed limitations as mentioned above in combination with other

claimed elements. The above features in conjunction with all other limitations of the

dependent and independent claims 1, 3-4, 6-10, 12-13, 15-19, and 21-22 are hereby

allowed.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JOON H. HWANG whose telephone number is

(571)272-4036. The examiner can normally be reached on 9:30-6:00(M~F).

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joon Hwang
Primary Examiner
Technology Center 2100

4/24/08
/Joon H. Hwang/
Primary Examiner, Art Unit 2166